

Fig. 1

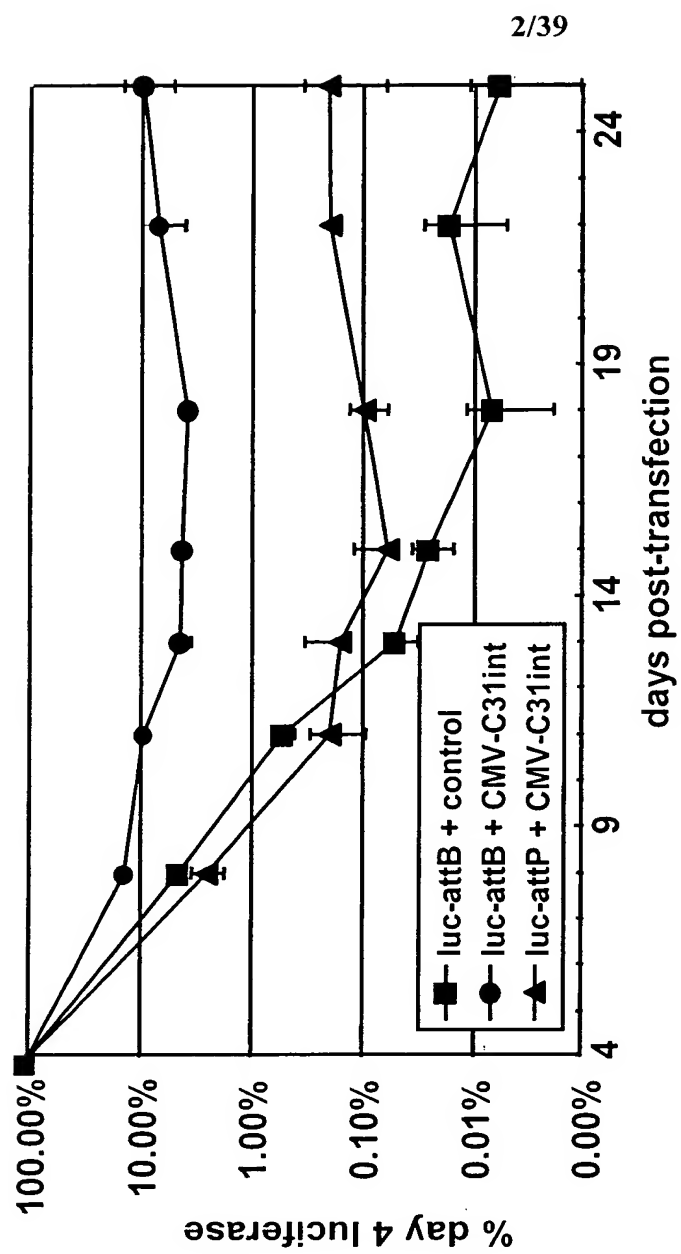


Fig. 2

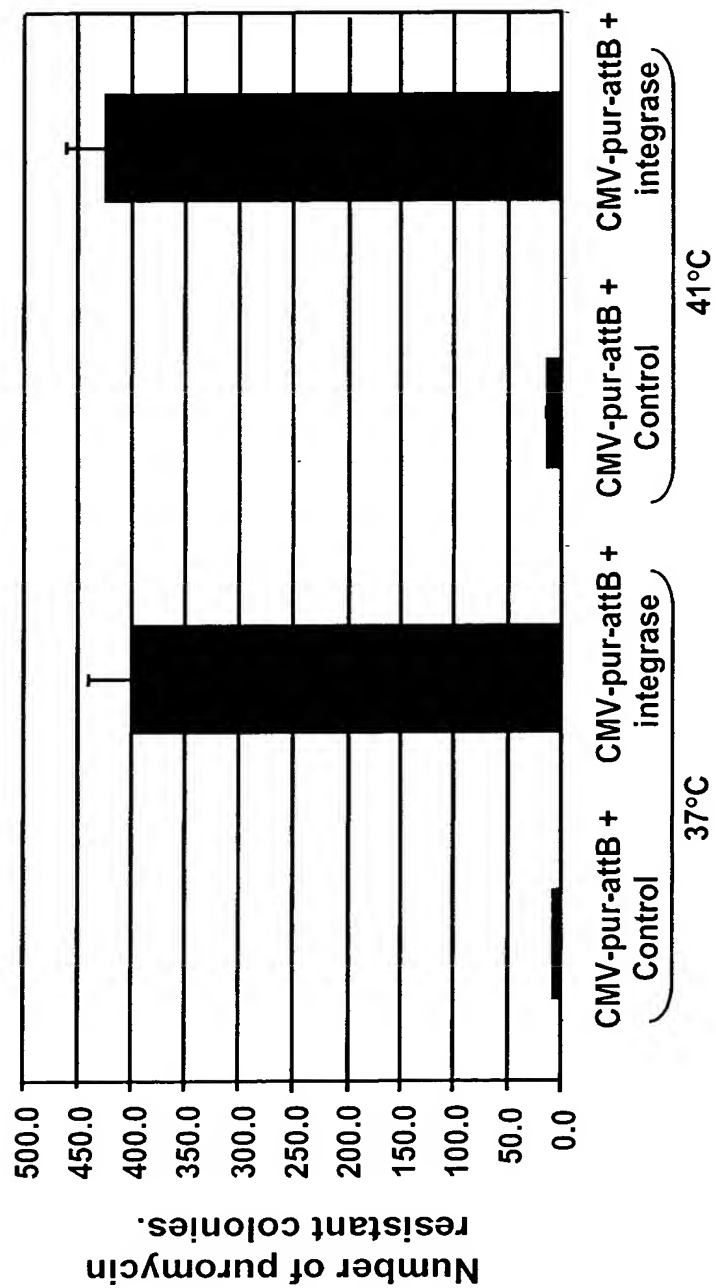
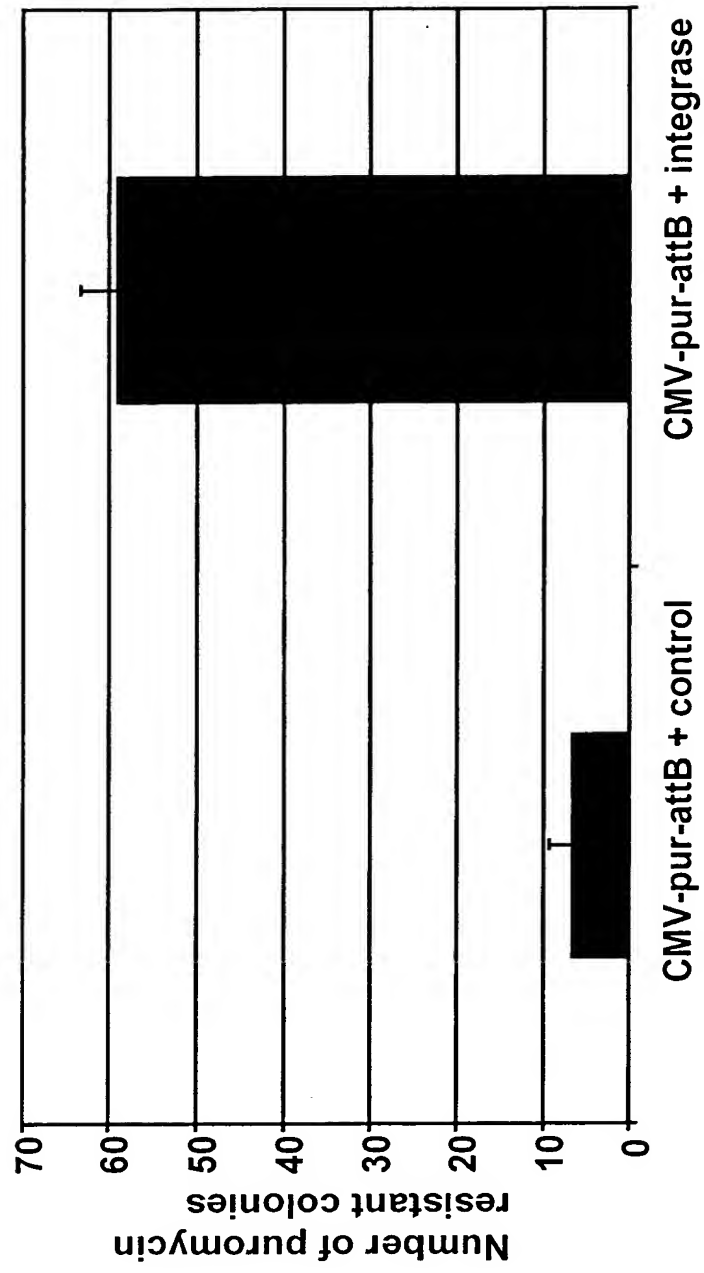


Fig. 3

**Fig. 4**

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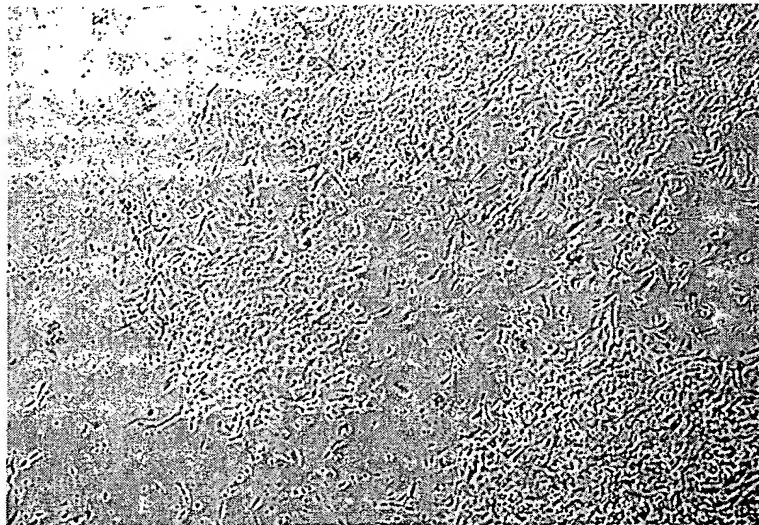
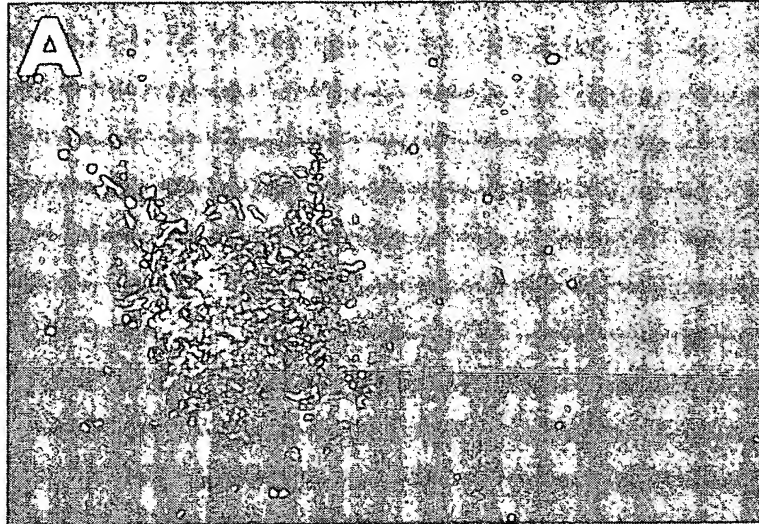
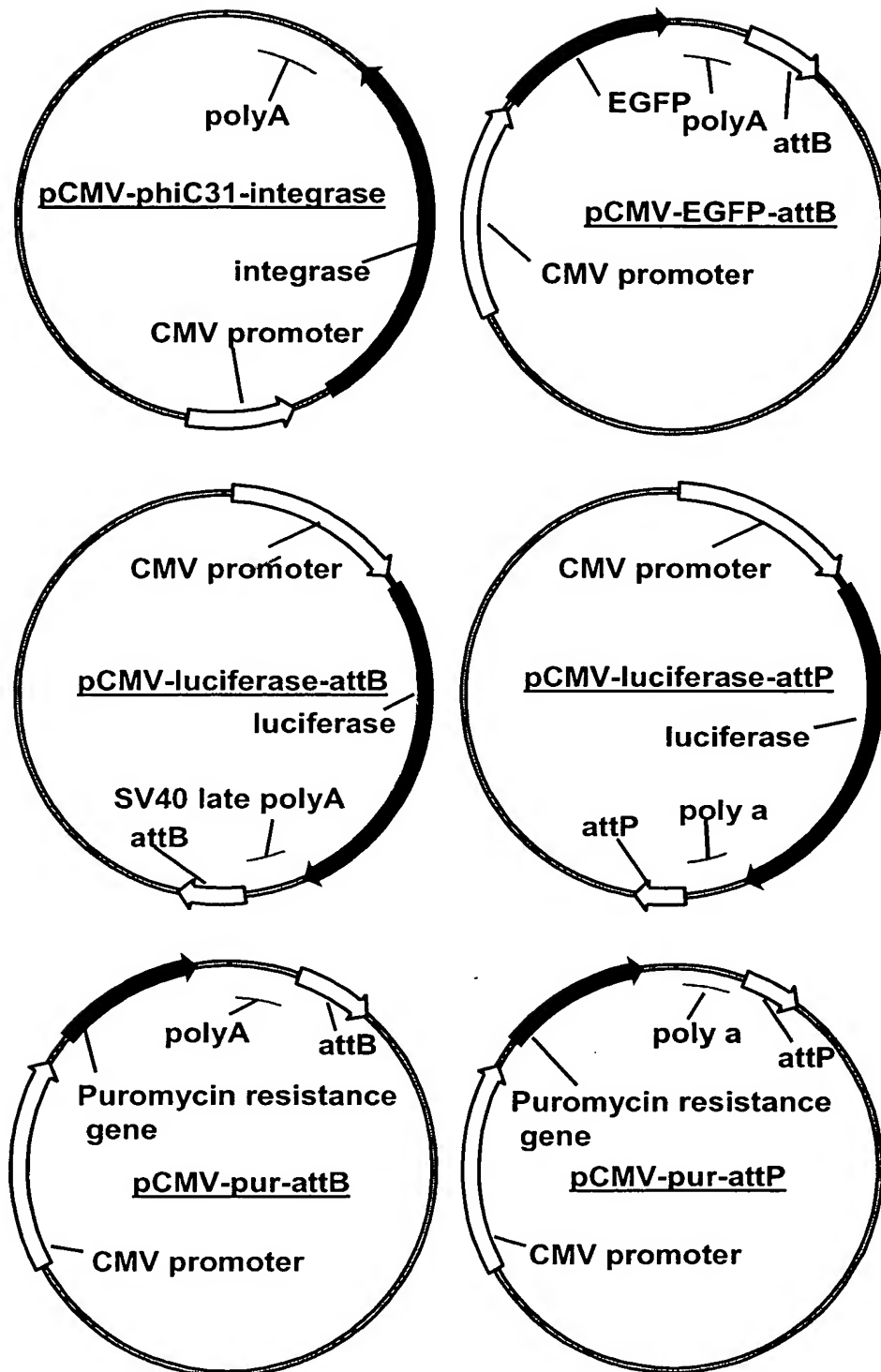


Fig. 5

**Fig. 6**

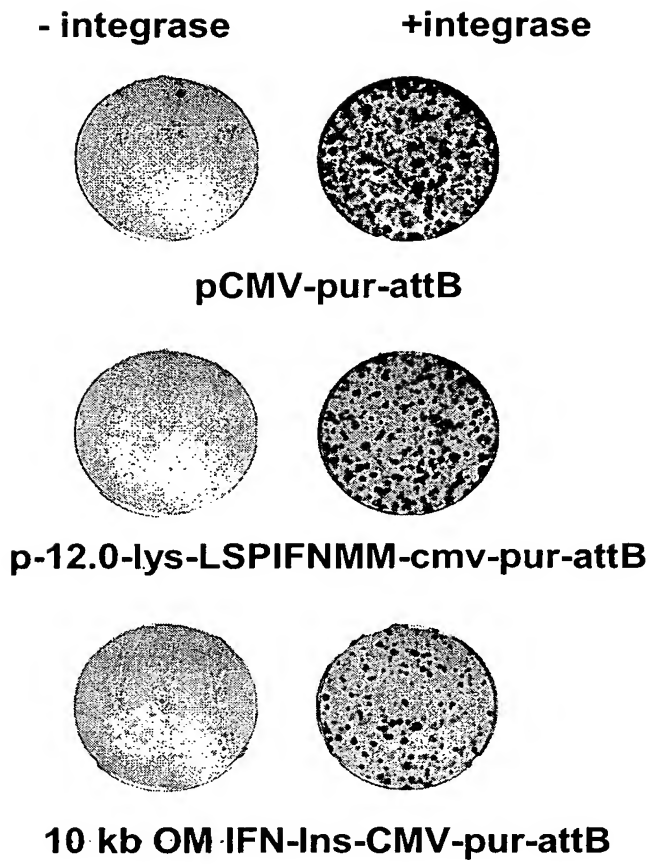
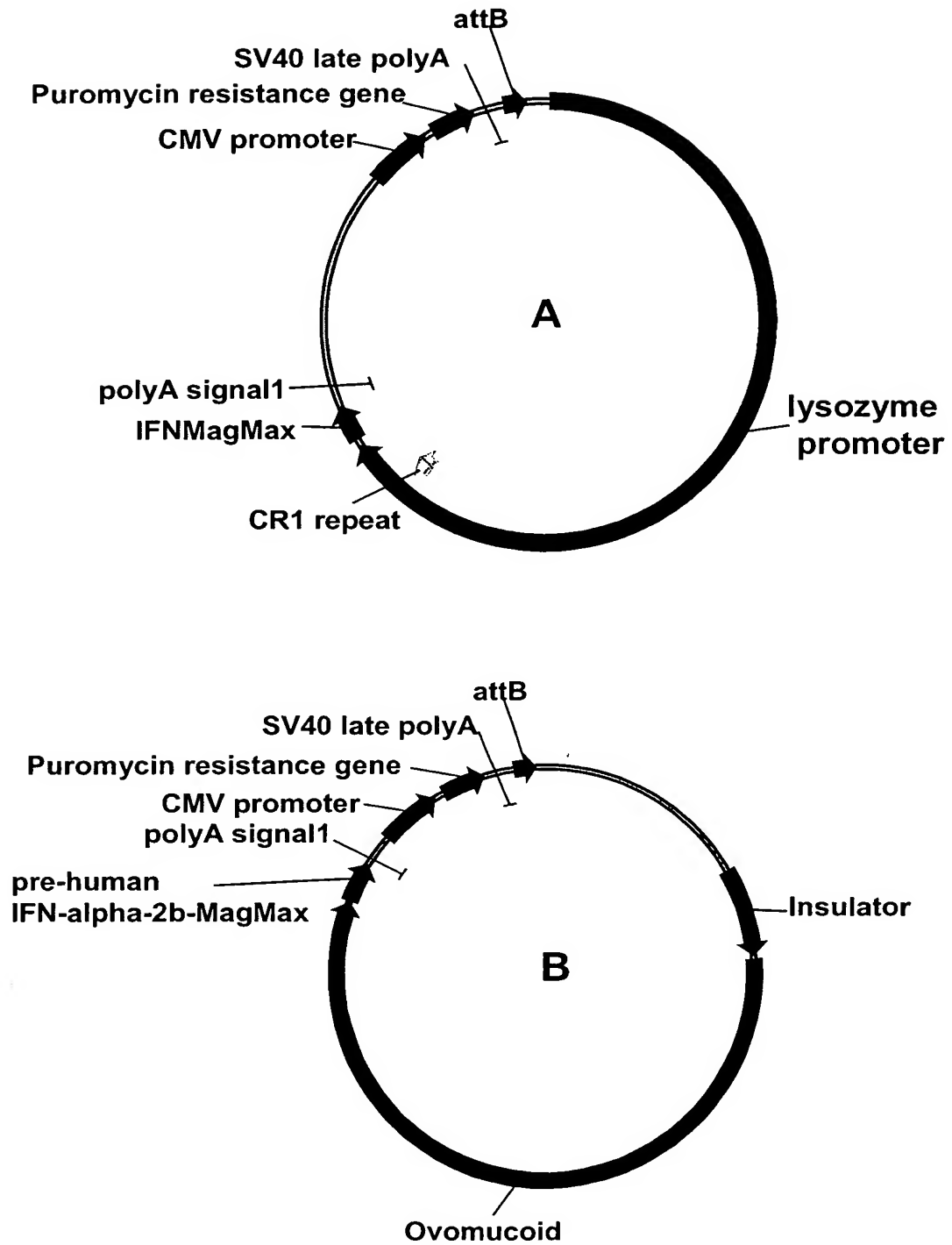


Fig. 7

**Fig. 8**

pCMV-C31int (SEQ ID NO: 1)

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Fig. 9

pCMV-luc-attB (SEQ ID NO: 2)

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Fig. 10

pCMV-luc-attP (SEQ ID NO: 3)

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TCAGGTTTCAGGGGGAGGTGTGGGAGGTTTTTTAAAGCAAGTAAAACCTCTACAAAATGTGGTA
AAATCGATAAGGATCAATTCGGCTTCGACTAGTACTGACGGACACACCGAAGTCCCGCGGC
AACCTTCAGCGGATGCCCGGGCTTCACGTTTTTCCAGGTGAGAAGCGTTTTTCGGGAGTA
GTGCCCAACTGGGGTAACCTTTGAGTTCTCTCAGTTGGGGGCGTAGGGTCGCCGACATGAC
ACAAGGGGTTGTGACCGGGGTGGACACGTACGCGGGTGCTTACGACCGTCAGTCGCGCGAGC

GCGACTAGTACAAGCCGAATTGATCCGTCGACCGATGCCCTTGAGAGCCTTCAACCCAGTCA
 GCTCCTTCCGGTGGGCGCGGGGCATGACTATCGTCGCCGCACTTATGACTGTCTTCTTTATC
 ATGCAACTCGTAGGACAGGTGCCGGCAGCGCTCTTCCGCTTCCTCGCTCACTGACTCGCTGC
 GCTCGGTCTGTTCCGGCTGCGGCGAGCGGTATCAGCTCACTCAAAGGCGGTAATACGGTTATCC
 ACAGAATCAGGGGATAACGCAGGAAAGAACATGTGAGCAAAAGGCCAGCAAAAGGCCAGGAA
 CCGTAAAAAGGCCGCGTTGCTGGCGTTTTTCCATAGGCTCCGCCCCCTGACGAGCATCACA
 AAAATCGACGCTCAAGTCAGAGGTGGCGAAACCCGACAGGACTATAAAGATACACAGGCGTTT
 CCCCCTGGAAGCTCCCTCGTGCGCTCTCCTGTTCCGACCCTGCCGCTTACCGGATACCTGTC
 CGCCTTTCTCCCTTCGGGAAGCGTGGCGCTTTCTCAATGCTCACGCTGTAGGTATCTCAGTT
 CGGTGTAGGTCGTTTCGCTCCAAGCTGGGCTGTGTGCACGAACCCCCCGTTACGCCCCGACCGC
 TGCGCCTTATCCGGTAACATATCGTCTTGAGTCCAACCCGGTAAGACACGACTTATCGCCACT
 GGCAGCAGCCACTGGTAACAGGATTAGCAGAGCGAGGTATGTAGGCGGTGCTACAGAGTTCT
 TGAAGTGGTGGCCTAACTACGGCTACACTAGAAGGACAGTATTTGGTATCTGCGCTCTGCTG
 AAGCCAGTTACCTTCGGAAAAAGAGTTGGTAGCTCTTGATCCGGCAAACAAACCACCGCTGG
 TAGCGGTGGTTTTTTTTGTTTGCAAGCAGCAGATTACGCGCAGAAAAAAGGATCTCAAGAAG
 ATCCTTTTGATCTTTTCTACGGGGTCTGACGCTCAGTGGAAACGAAACTCACGTTAAGGGATT
 TTGGTCATGAGATTATCAAAAAGGATCTTCACCTAGATCCTTTTAAATTAAAAATGAAGTTT
 TAAATCAATCTAAAGTATATATGAGTAAACTTGGTCTGACAGTTACCAATGCTTAATCAGTG
 AGGCACCTATCTCAGCGATCTGTCTATTTTCGTTTCATCCATAGTTGCCTGACTCCCCGTCGTG
 TAGATAACTACGATACGGGAGGGCTTACCATCTGGCCCCAGTGCTGCAATGATACCGCGAGA
 CCCACGCTCACCGGCTCCAGATTTATCAGCAATAAACAGCCAGCCGGAAGGGCCGAGCGCA
 GAAGTGGTCTTGAACCTTATCCGCCTCCATCCAGTCTATTAATTGTTGCCGGGAAGCTAGA
 GTAAGTAGTTCGCCAGTTAATAGTTTTCGCAACGTTGTTGCCATTGCTACAGGCATCGTGGT
 GTCACGCTCGTCGTTTGGTATGGCTTCATTCAGCTCCGGTTCCCAACGATCAAGGCGAGTTA
 CATGATCCCCCATGTTGTGCAAAAAAGCGGTTAGCTCCTTCGGTCTCCGATCGTTGTCAGA
 AGTAAGTTGGCCGAGTGTTATCACTCATGGTTATGGCAGCACTGCATAATTCTCTTACTGT
 CATGCCATCCGTAAGATGCTTTTCTGTGACTGGTGAGTACTCAACCAAGTCATTCTGAGAAT
 AGTGTATGCGGCGACCGAGTTGCTCTTGCCCGGCGTCAATACGGGATAAATACCGCGCCACAT
 AGCAGAACTTTAAAAGTGCTCATCATTGGAACCGTTCTTCGGGGCGAAAACCTCTCAAGGAT
 CTTACCGCTGTTGAGATCCAGTTCGATGTAACCCACTCGTGCACCCAACTGATCTTCAGCAT
 CTTTTACTTTTACCAGCGTTTCTGGGTGAGCAAAAAACAGGAAGGCAAAATGCCGCAAAAAAG
 GGAATAAGGGCGACACGGAAATGTTGAATACTCATACTCTTCCTTTTTCAATATTATTGAAG
 CATTTATCAGGGTTATTGTCTCATGAGCGGATACATATTTGAATGTATTTAGAAAAATAAAC
 AAATAGGGGTTCCGCGCACATTTCCCCGAAAAGTGCCACCTGACGCGCCCTGTAGCGGCGCA
 TTAAGCGCGGCGGGTGTGGTGGTTACGCGCAGCGTGACCGCTACACTTGCCAGCGCCCTAGC
 GCCCCGCTCCTTTCGCTTTCTTCCCTTCTTCTCGCCACGTTCCGCGGCTTTCCCCGTCAAG
 CTCTAAATCGGGGGCTCCCTTTAGGGTTCGATTTAGTGCTTTACGGCACCTCGACCCCCAAA
 AACTTTGATTAGGGTGATGGTTTCACGTAGTGGGCCATCGCCCTGATAGACGGTTTTTCGCC
 TTTGACGTTGGAGTCCACGTTCTTTAATAGTGGACTCTTGTTCCAAACTGGAACAACACTCA
 ACCCTATCTCGGTCTATTCTTTTGATTTATAAGGGATTTTGCCGATTTCCGGCCTATTGGTTA
 AAAAATGAGCTGATTTAACAAAAATTTAACGCGAATTTTAAACAAAATATTAACGTTTACAAT
 TTCCCATTCGCCATTACAGGCTGCGCAACTGTTGGGAAGGGCGATCGGTGCGGGCCTCTTCGC
 TATTACGCCAGCCCAAGCTACCATGATAAGTAAGTAATATTAAGGTACGGGAGGTACTTGGA
 GCGGCCGCAATAAAATATCTTTATTTTATTACATCTGTGTGTTGGTTTTTTGTGTGAATCG
 ATAGTACTAACATACGCTCTCCATCAAAACAAAACGAAACAAAACAACTAGCAAAATAGGC
 TGTCCCCAGTGCAAGTGCAGGTGCCAGAACATTT

Fig. 11

pCMV-pur-attB (SEQ ID NO: 4)

CTAGAGTCGGGGCGGCCGGCCGCTTCGAGCAGACATGATAAGATACATTGATGAGTTTGGAC
 AAACCACAACCTAGAATGCAGTGAAAAAATGCTTTATTTGTGAAATTTGTGATGCTATTGCT
 TTATTTGTAAACCATTATAAGCTGCAATAAACAAGTTAACAACAACAATTGCATTCATTTTAT
 GTTTCAGGTTTCAGGGGGAGGTGTGGGAGGTTTTTTTAAAGCAAGTAAAACTCTACAAATGTG
 GTAAAATCGATAAGGATCAATTCGGCTTCAGGTACCGTCGACGATGTAGGTCACGGTCTCGA
 AGCCGCGGTGCGGGTGCCAGGGCGTGCCCTTGGGCTCCCCGGGCGCGTACTCCACCTCACCC
 ATCTGGTCCATCATGATGAACGGGTGCGAGGTGGCGGTAGTTGATCCCGGCGAACGCGCGGCG
 CACCGGGAAGCCCTCGCCCTCGAAACCGCTGGGCGCGGTGGTCACGGTGAGCACGGGACGTG
 CGACGGCGTTCGGCGGGTGCGGATACGCGGGGCGAGCGTCAGCGGGTTCTCGACGGTCACGGCG
 GGCATGTCGACAGCCGAATTGATCCGTCGACCGATGCCCTTGAGAGCCCTCAACCAGTTCAG
 CTCTTCCGGTGGGCGCGGGGCATGACTATCGTCGCCGCACTTATGACTGTCTTCTTTATCA
 TGCAACTCGTAGGACAGGTGCCGCGAGCGCTCTTCCGCTTCTCGCTCACTGACTCGCTGCG
 CTCGGTTCGTTTCGGCTGCGGCGAGCGGTATCAGCTCACTCAAAGGCGGTAAATACGGTTATCCA
 CAGAATCAGGGGATAACGCGAGGAAAGACATGTGAGCAAAAGGCCAGCAAAAGGCCAGGAAC
 CGTAAAAAGGCCGCGTTGCTGGCGTTTTTTCATAGGCTCCGCCCCCTGACGAGCATCACAA
 AAATCGACGCTCAAGTCAGAGGTGGCGAAACCCGACAGGACTATAAAGATACCAGGCGTTTC
 CCCCTGGAAGCTCCCTCGTGCGCTCTCTGTTCCGACCTGCCGCTTACCGGATACCTGTCC
 GCCTTTCTCCCTTCGGGAAGCGTGCGCTTTCTCAATGCTCACGCTGTAGGTATCTCAGTTC
 GGTGTAGGTGCTTCGCTCCAAGCTGGGCTGTGTGCACGAACCCCCCGTTCAGCCCGACCGCT
 GCGCCTTATCCGGTAACCTATCGTCTTGAGTCCAACCCGTAAGACACGACTTATCGCCACTG
 GCAGCAGCCACTGGTAACAGGATTAGCAGAGCGAGGTATGTAGGCGGTGCTACAGAGTTCCTT
 GAAGTGGTGGCCTAACTACGGCTACACTAGAAGGACAGTATTTGGTATCTGCGCTCTGCTGA
 AGCCAGTTACCTTCGGAAAAAGAGTTGGTAGTCTTTGATCCGGCAAACAAACCACCGCTGGT
 AGCGGTGGTTTTTTTTGTTTGCAAGCAGCAGATTACGCGCAGAAAAAAGGATCTCAAGAAGA
 TCCTTTGATCTTTTCTACGGGGTCTGACGCTCAGTGGAACGAAACTCACGTTAAGGGATTT
 TGGTCATGAGATTATCAAAAAGGATCTTCACCTAGATCCTTTTAAATTAAAAATGAAGTTTT
 AAATCAATCTAAAGTATATATGAGTAAACTTGGTCTGACAGTTACCAATGCTTAATCAGTGA
 GGACCTTATCTCAGCGATCTGTCTATTTCTGTTTCATCCATAGTTGCCTGACTCCCCGTCGTGT
 AGATAACTACGATACGGGAGGGCTTACCATCTGGCCCCAGTGCTGCAATGATACCGCGAGAC
 CCACGCTCACCGGCTCCAGATTTATCAGCAATAAACCCAGCCAGCCGGAAGGGCCGAGCGCAG
 AAGTGGTCTCTGCAACTTTATCCGCTCCATCCAGTCTATTAATTGTTGCCGGGAAGCTAGAG
 TAAGTAGTTCGCCAGTTAATAGTTTGCGCAACGTTGTTGCCATTGCTACAGGCATCGTGGTG
 TCACGCTCGTCGTTTGGTATGGCTTCATTACGCTCCGGTTCCCAACGATCAAGGCGAGTTAC
 ATGATCCCCCATGTTGTGCAAAAAGCGGTTAGCTCCTTCGGTCTCCTCGATCGTTGTCAGAA
 GTAAGTTGGCCGAGTGTATCACTCATGGTTATGGCAGCACTGCATAATTCTCTTACTGTC
 ATGCCATCCGTAAGATGCTTTTCTGTGACTGGTGTAGTACTCAACCAAGTCATTCTGAGAATA
 GTGTATGCGGCGACCGAGTTGCTCTTGCCCGGCGTCAATACGGGATAATACCGCGCCACATA
 GCAGAACTTTAAAAGTGCTCATCATTTGGAACGTTCTTCGGGGCGAAACTCTCAAGGATC
 TTACCGCTGTTGAGATCCAGTTCGATGTAACCCACTCGTGACCCAACTGATCTTCAGCATC
 TTTTACTTTTACCAGCGTTTCTGGGTGAGCAAAAACAGGAAGGCAAAATGCCGCAAAAAAGG
 GAATAAGGGCGACACGGAAATGTTGAATACTCATACTCTTCCTTTTTCAATATTATTGAAGC
 ATTTATCAGGGTTATTGTCTCATGAGCGGATACATATTTGAATGTATTTAGAAAAATAACA
 AATAGGGGTTCCGCGCACATTTCCCCGAAAAGTGCCACCTGACGCGCCCTGTAGCGGCGCAT
 TAAGCGCGGCGGGTGTGGTGGTTACGCGCAGCGTGACCGCTACACTTGCCAGCGCCCTAGCG
 CCCGCTCCTTCGCTTTCTTCCCTTCTTCTCGCCACGTTTCGCCGGCTTTCCCGTCAAGC
 TCTAAACTCGGGGCTCCCTTTAGGGTTCGATTTAGTGCTTTACGGCACCTCGACCCCAAAA
 AACTTGATTAGGGTGATGGTTCACGTAGTGAGGCCATCGCCCTGATAGACGGTTTTTTCGCCCT
 TTGACGTTGGAGTCCACGTTCTTTAATAGTGACTCTTGTTCCAAACTGGAACAACACTCAA
 CCCTATCTCGGTCTATTCTTTTGATTTATAAGGGATTTTGCCGATTTCCGGCTATTGGTTAA
 AAAATGAGCTGATTTAACAAAAATTTAACGCGAATTTTAACAAAAATTAACGTTTACAATT

TCCCATTCGCCATTTCAGGCTGCGCAACTGTTGGGAAGGGCGATCGGTGCGGGCCTCTTCGCT
 ATTACGCCAGCCCAAGCTACCATGATAAGTAAGTAATATTAAGGTACGGGAGGTACTTGGAG
 CGGCCGCAATAAAATATCTTTATTTTCATTACATCTGTGTGTTGGTTTTTGTGTGAATCGA
 TAGTACTAACATACGCTCTCCATCAAAACAAAACGAAACAAAACAACTAGCAAAATAGGCT
 GTCCCCAGTGCAAGTGCAGGTGCCAGAACATTTCTCTATCGATAGGTACCGAGCTCTTACGC
 GTGCTAGCCCTCGAGCAGGATCTATACATTGAATCAATATTGGCAATTAGCCATATTAGTCA
 TTGGTTATATAGCATAAATCAATATTGGCTATTGGCCATTGCATACGTTGTATCTATATCAT
 AATATGTACATTTATATTGGCTCATGTCCAATATGACCGCCATGTTGACATTGATTATTGAC
 TAGTTATTAATAGTAATCAATTACGGGGTCATTAGTTCATAGCCCATATATGGAGTTCCGCG
 TTACATAACTTACGGTAAATGGCCCGCTGGCTGACCGCCCAACGACCCCGCCCATTGACG
 TCAATAATGACGTATGTTCCCATAGTAACGCCAATAGGGACTTTCCATTGACGTCAATGGGT
 GGAGTATTTACGGTAAACTGCCCACTTGGCAGTACATCAAGTGTATCATATGCCAAGTCCGC
 CCCCTATTGACGTCAATGACGGTAAATGGCCCGCTGGCATTATGCCCAGTACATGACCTTA
 CGGGACTTTTCTACTTGGCAGTACATCTACGTATTAGTCATCGCTATTACCATGGTGATGCG
 GTTTTGGCAGTACATCAATGGGCGTGGATAGCGGTTTGACTCACGGGGATTTCCAAGTCTCC
 ACCCCATTGACGTCAATGGGAGTTTGTTTTGGCACCAAAATCAACGGGACTTTCCAAAATGT
 CGTAACAACCTCCGCCCCATTGACGCAATGGGCGGTAGGCGTGTACGGTGGGAGGTCTATAT
 AAGCAGAGCTCGTTTAGTGAACCGTCAGATCGCCTGGAGACGCCATCCACGCTGTTTTGACC
 TCCATAGAAGACACCGGGACCGATCCAGCCTCCCCCTCGAAGCTCGACTCTAGGGGCTCGAGA
 TCTGCGATCTAAGTAAGCTTGCATGCCTGCAGGTGCGCCGCCACGACCGGTGCCGCCACCAT
 CCCCTGACCCACGCCCCCTGACCCCTCACAAAGGAGACGACCTTCCATGACCGAGTACAAGCCC
 ACGGTGCGCCTCGCCACCCGCGACGACGTCCCCCGGGCCGTACGCACCCCTCGCCGCCGCGTT
 CGCCGACTACCCCGCCACGCGCCACACCGTCGACCCGGACCGCCACATCGAGCGGGTCACCG
 AGCTGCAAGAACTCTTCCTCACGCGCGTCGGGCTCGACATCGGCAAGGTGTGGGTGCGCGAC
 GACGGCGCCGCGGTGGCGGTCTGGACCACGCCGGAGAGCGTCGAAGCGGGGGCGGTGTTTCGC
 CGAGATCGGCCCCGCGCATGGCCGAGTTGAGCGGTTCCCGGCTGGCCGCGCAGCAACAGATGG
 AAGGCCTCCTGGCGCCGCACCGGCCCAAGGAGCCCGCGTGGTTCTTGGCCACCGTCGGCGTC
 TCGCCCGACCAACAGGGCAAGGTCTGGGCAGCGCGTCTGTGCTCCCCGGAGTGGAGGCGGC
 CGAGCGCGCCGGGGTGCCCGCCTTCTTGAGACCTCCGCGCCCCGCAACCTCCCCCTTCTACG
 AGCGGCTCGGCTTACCGTCAACGCCGACGTGAGGTGCCCGAAGGACCGCGCACCTGGTG
 ATGACCCGCAAGCCCGGTGCCTGACGCCCCGCCACGACCCGCGAGCGCCCGACCGAAAGGAG
 CGCACGACCCCATGGCTCCGACCGAAGCCGACCCGGGCGGCCCCGCGACCCCGCACCCGCC
 CCGGAGGCCCAACCGACT

Fig. 12

pCMV-pur-attP (SEQ ID NO: 5)

CTAGAGTCGGGGCGGCCGCTTCGAGCAGACATGATAAGATACATTGATGAGTTTGGAC
AAACCACAAC TAGAATGCAGTGAAAAAATGCTTTATTTGTGAAATTTGTGATGCTATTGCT
TTATTTGTAACCATTATAAGCTGCAATAAACAAGTTAACAACAACAATTGCATTCAATTTTAT
GTTTCAGGTTTCAGGGGGAGGTGTGGGAGGTTTTTTAAAGCAAGTAAAACCTCTACAAATGTG
GTAAAATCGATAAGGATCAATTCGGCTTCGACTAGTACTGACGGACACACCGAAGCCCCGGC
GGCAACCCTCAGCGGATGCCCCGGGGCTTCACGTTTTCCCAGGTCAGAAGCGGTTTTTCGGGA
GTAGTGCCCCAACTGGGGTAACCTTTGAGTTCTCTCAGTTGGGGGCGTAGGGTCGCCGACAT
GACACAAGGGGTTGTGACCGGGGTGGACACGTACGCGGGTGCTTACGACCGTCAGTCGCGCG
AGCGCGACTAGTACAAGCCGAATTGATCCGTCGACCGATGCCCTTGAGAGCCTTCAACCCAG
TCAGCTCCTTCCGGTGGGCGCGGGGCATGACTATCGTCGCCGCACTTATGACTGTCTTCTTT
ATCATGCAACTCGTAGGACAGGTGCCGGCAGCGCTCTTCCGCTTCCTCGCTCACTGACTCGC
TGCGCTCGGTTCGTTCCGGCTGCCGGCAGCGGTATCAGCTCACTCAAAGGCGGTAATACGGTTA
TCCACAGAATCAGGGGATAACGCAGGAAAGAACATGTGAGCAAAAGGCCAGCAAAAGGCCAG
GAACCGTAAAAAGGCCGCGTTGCTGGCGTTTTTCCATAGGCTCCGCCCCCTGACGAGCATC
ACAAAAATCGACGCTCAAGTCAGAGGTGGCGAAACCCGACAGGACTATAAAGATACCAGGCG
TTTCCCCCTGGAAGCTCCCTCGTGCGCTCTCCTGTTCGACCCCTGCCGCTTACCCGGATACCT
GTCCGCTTTCTCCCTTCGGGAAGCGTGGCGCTTTCTCAATGCTCAGCGCTGATGGTATCTCA
GTTTCGGTGTAGGTTCGTTTCGCTCCAAGCTGGGCTGTGTGCACGAACCCCCGTTTCAGCCCCGAC
CGCTGCGCCTTATCCGGTAACTATCGTCTTGAGTCCAACCCGGTAAGACACGACTTATCGCC
ACTGGCAGCAGCCACTGGTAACAGGATTAGCAGAGCGAGGTATGTAGGCGGTGCTACAGAGT
TCTTGAAGTGGTGGCCTAACTACGGCTACACTAGAAGGACAGTATTTGGTATCTGCGCTCTG
CTGAAGCCAGTTACCTTCGGAAAAAGAGTTGGTAGCTCTTGATCCGGCAAAACAAACCACCGC
TGGTAGCGGTGGTTTTTTTTGTTTGCAAGCAGCAGATTACGCGCAGAAAAAAGGATCTCAAG
AAGATCCTTTGATCTTTTCTACGGGGTCTGACGCTCAGTGGAACGAAAACCTCACGTTAAGGG
ATTTTGGTTCATGAGATTATCAAAAAGGATCTTCACCTAGATCCTTTTAAATTAAAAATGAAG
TTTTAAATCAATCTAAAGTATATATGAGTAACTTGGTCTGACAGTTACCAATGCTTAATCA
GTGAGGCACCTATCTCAGCGATCTGTCTATTTTCGTTTCATCCATAGTTGCCTGACTCCCCGTC
GTGTAGATAACTACGATACGGGAGGGCTTACCATCTGGCCCCAGTGCTGCAATGATACCGCG
AGACCCACGCTCACCGGCTCCAGATTTATCAGCAATAAACCAGCCAGCCGGAAGGGCCGAGC
GCAGAAGTGGTTCCTGCAACTTTATCCGCCTCCATCCAGTCTATTAATTGTTGCCGGGAAGCT
AGAGTAAGTAGTTCCGCAGTTAATAGTTTGCGCAACGTTGTTGCCATTGCTACAGGCATCGT
GGTGTACGCTCGTTCGTTTGGTATGGCTTCATTACGCTCCGGTCCCAACGATCAAGGCGAG
TTACATGATCCCCCATGTTGTGCAAAAAAGCGGTTAGCTCCTTCGGTCTCCGATCGTTGTC
AGAAGTAAGTTGGCCGCGAGTGTTATCACTCATGGTTATGGCAGCACTGCATAATTCTCTTAC
TGTTCATGCCATCCGTAAGATGCTTTTCTGTGACTGGTGAGTACTCAACCAAGTCATTCTGAG
AATAGTGTATGCGGCGACCGAGTTGCTCTTGCCCGGCGTCAATACGGGATAATACCGCGCCA
CATAGCAGAACTTTAAAGTGCTCATCATTGAAAAAGCTTCTTCGGGGCGAAAACTCTCAAG
GATCTTACCCTGTTGAGATCCAGTTCGATGTAACCCACTCGTGACCCCACTGATCTTCAG
CATCTTTTACTTTTACCAGCGTTTCTGGGTGAGCAAAAACAGGAAGGCAAAATGCCGCAAAA
AAGGGAATAAGGGCGACACGGAAATGTTGAATACTCATACTCTTCCTTTTCAATATTATTG
AAGCATTTATCAGGGTTATTGTCTCATGAGCGGATACATATTTGAATGTATTTAGAAAAATA
AACAAATAGGGGTTCCGCGCACATTTCCCCGAAAAGTGCCACCTGACGCGCCCTGTAGCGGC
GCATTAAGCGCGGGCGGGTGTGGTGGTTACGCGCAGCGTGACCGCTACACTTGCCAGCGCCCT
AGCGCCCGCTCCTTTTCGCTTTCTTCCCTTCCTTTCTCGCCACGTTTCGCCGCGCTTTCCCCGTC
AAGCTCTAAATCGGGGGCTCCCTTTAGGGTTCCGATTTAGTGCTTTACGGCACCTCGACCCC
AAAAAACTTGATTAGGGTGATGGTTCACGTAGTGGGCCATCGCCCTGATAGACGGTTTTTTTCG
CCCTTTGACGTTGGAGTCCAGTTCCTTAAATAGTGGACTCTTGTTCCAAACTGGAACAACAC
TCAACCCTATCTCGGTCTATTCTTTTGATTTATAAGGGATTTTGCCGATTTCCGGCTATTGG
TTAAAAAATGAGCTGATTTAACAAAAATTTAACGCGAATTTTAAACAAAATATTAACGTTTAC
AATTTCCCATTCGCCATTACGGCTGCGCAACTGTTGGGAAGGGCGATCGGTGCGGGCCTCTT

CGCTATTACGCCAGCCCAAGCTACCATGATAAGTAAGTAATATTAAGGTACGGGAGGTACTT
 GGAGCGGCCGCAATAAAATATCTTTATTTTCATTACATCTGTGTGTTGGTTTTTTGTGTGAA
 TCGATAGTACTAACATACGCTCTCCATCAAAACAAAACGAAACAAAACAACTAGCAAAATA
 GGCTGTCCCCAGTGCAAGTGCAGGTGCCAGAACATTTCTCTATCGATAGGTACCGAGCTCTT
 ACGCGTGCTAGCCCTCGAGCAGGATCTATACATTGAATCAATATTGGCAATTAGCCATATTA
 GTCATTGGTTATATAGCATAAATCAATATTGGCTATTGGCCATTGCATACGTTGTATCTATA
 TCATAATATGTACATTTATATTGGCTCATGTCCAATATGACCGCCATGTTGACATTGATTAT
 TGACTAGTTATTAATAGTAATCAATTACGGGGTCATTAGTTCATAGCCCATATATGGAGTTC
 CGCGTTACATAACTTACGGTAAATGGCCCGCTGGCTGACCGCCCAACGACCCCCGCCCAT
 GACGTCAATAATGACGTATGTTCCCATAGTAACGCCAATAGGGACTTTCATTGACGTCAAT
 GGGTGGAGTATTTACGGTAAACTGCCCACTTGGCAGTACATCAAGTGTATCATATGCCAAGT
 CCGCCCCCTATTGACGTCAATGACGGTAAATGGCCCGCTGGCATTATGCCCAGTACATGAC
 CTTACGGGACTTTTCTACTTGGCAGTACATCTACGTATTAGTCATCGCTATTACCATGGTGA
 TGCGGTTTTGGCAGTACATCAATGGGCGTGGATAGCGGTTTTGACTCACGGGGATTTCCAAGT
 CTCCACCCCATTTGACGTCAATGGGAGTTTGTTTTGGCACCAAAATCAACGGGACTTTTCCAAA
 ATGTCGTAACAACCTCCGCCCCATTGACGCAAATGGGCGGTAGGCGTGTACGGTGGGAGGTCT
 ATATAAGCAGAGCTCGTTTAGTGAACCGTCAGATCGCCTGGAGACGCCATCCACGCTGTTTT
 GACCTCCATAGAAGACACCGGGACCGATCCAGCCTCCCCTCGAAGCTCGACTCTAGGGGCTC
 GAGATCTGCGATCTAAGTAAGCTTGCATGCCTGCAGGTGCGCCGCCACGACCGGTGCCGCCA
 CCATCCCCTGACCCACGCCCCCTGACCCCTCACAAGGAGACGACCTTCCATGACCGAGTACAA
 GCCCACGGTGCGCCTCGCCACCCGCGACGACGTCCCCCGGGCCGTACGCACCCCTCGCCGCCG
 CGTTCGCCGACTACCCCGCCACGCGCCACACCGTCGACCCGGACCGCCACATCGAGCGGGTC
 ACCGAGCTGCAAGAACTCTTCCTCACGCGCGTCGGGCTCGACATCGGCAAGGTGTGGGTGCG
 GGACGACGGCGCCGCGGTGGCGGTCTGGACCACGCCGGAGAGCGTCGAAGCGGGGGCGGTGT
 TCGCCGAGATCGGCCCCGCGCATGGCCGAGTTGAGCGGTTCCCGGCTGGCCGCGCAGCAACAG
 ATGGAAGGCCTCCTGGCGCCGCACCGGCCCAAGGAGCCCGCGTGGTTCCTGGCCACCGTCGG
 CGTCTCGCCCCGACCACAGGGCAAGGGTCTGGGCAGCGCCGTCGTGCTCCCCGAGTGGAGG
 CGGCCGAGCGCGCCGGGTGCCCGCCTTCTGGAGACCTCCGCGCCCCGCAACCTCCCCCTTC
 TACGAGCGGCTCGGCTTCACCGTCACCGCCGACGTCGAGGTGCCCGAAGGACCGCGCACCTG
 GTGCATGACCCGCAAGCCCGGTGCCTGACGCCCCGCCACGACCCGCGAGCGCCCGACCGAAA
 GGAGCGCACGACCCCATGGCTCCGACCGAAGCCGACCCGGGCGGCCCGCCGACCCCGCACCC
 CGCCCCCGAGGCCACCGACT

Fig. 13

pCMV-EGFP-attB (SEQ ID NO: 6)

CTAGAGTCGGGGCGGCCGGCCGCTTCGAGCAGACATGATAAGATACATTGATGAGTTTGGAC
 AAACCACAAC TAGAATGCAGTGAAAAAATGCTTTATTTGTGAAATTTGTGATGCTATTGCT
 TTATTTGTAAACCATTATAAGCTGCAATAAACAAGTTAACAACAACAATTGCATTCATTTTAT
 GTTTCAGGTTTCAGGGGGAGGTGTGGGAGGTTTTTTTAAAGCAAGTAAAACCTCTACAAATGTG
 GTAAAATCGATAAGGATCAATTCGGCTTCAGGTACCGTCGACGATGTAGGTCACGGTCTCGA
 AGCCGCGGTGCGGGTGCCAGGGCGTGCCCTTGGGCTCCCCGGGCGCGTACTCCACCTCACCC
 ATCTGGTCCATCATGATGAACGGGTTCGAGGTGGCGGTAGTTGATCCCCGGCGAACGCGCGGCG
 CACCGGGAAGCCCTCGCCCTCGAAACCGCTGGGCGCGGTGGTCACGGTGAGCACGGGACGTG
 CGACGGCGTTCGGCGGGTGCGGATACGCGGGGCAGCGTCAGCGGGTTCTCGACGGTCACGGCG
 GGCATGTTCGACAGCCGAATTGATCCGTCGACCGATGCCCTTGAGAGCCTTCAACCCAGTCAG
 CTCCTTCCGGTGGGCGCGGGGCATGACTATCGTCGCCGCACTTATGACTGTCTTCTTTATCA
 TGCAACTCGTAGGACAGGTGCCGGCAGCGCTCTTCCGCTTCTCGCTCACTGACTCGCTGCG
 CTCGGTCGTTTCGGCTGCGGCGAGCGGTATCAGCTCACTCAAAGGCGGTAATACGGTTATCCA
 CAGAATCAGGGGATAACGCAGGAAAGAACATGTAGCAAAAGGCCAGCAAAAGGCCAGGAAC
 CGTAAAAAGGCCGCGTTGCTGGCGTTTTTCCATAGGCTCCGCCCCCTGACGAGCATCACAA
 AAATCGACGCTCAAGTCAGAGGTGGCGAAACCCGACAGGACTATAAAGATACCAGCGTTTTT
 CCCCCTGGAAGCTCCCTCGTGCGCTCTCCTGTTCCGACCCTGCCGCTTACCGGATACCTGTCC
 GCCTTTCTCCCTTCGGGAAGCGTGCGCTTTCTCAATGCTCACGCTGTAGGTATCTCAGTTC
 GGTGTAGGTGCTTCGCTCCAAGCTGGGCTGTGTGCACGAACCCCCCGTTCAGCCCGACCGCT
 GCGCCTTATCCGGTAACTATCGTCTTGAGTCCAACCCGGTAAGACACGACTTATCGCCACTG
 GCAGCAGCCACTGGTAACAGGATTAGCAGAGCGAGGTATGTAGGCGGTGCTACAGAGTTCTT
 GAAGTGGTGGCCTAACTACGGCTACACTAGAAGGACAGTATTTGGTATCTGCGCTCTGCTGA
 AGCCAGTTACCTTCGGAAAAAGAGTTGGTAGCTCTTGATCCGGCAAACAAACCACCGCTGGT
 AGCGGTGGTTTTTTTTGTTTTGCAAGCAGCAGATTACGCGCAGAAAAAAGGATCTCAAGAAGA
 TCCTTTGATCTTTTTCTACGGGGTCTGACGCTCAGTGGAACGAAAACCTCACGTTAAGGGATT
 TGGTCATGAGATTATCAAAAAGGATCTTCACCTAGATCCTTTTAAATTAAAAATGAAGTTTT
 AAATCAATCTAAAGTATATATGAGTAAACTTGGTCTGACAGTTACCAATGCTTAATCAGTGA
 GGCACCTATCTCAGCGATCTGTCTATTTCTGTTTCATCCATAGTTGCCTGACTCCCCGTGCTGT
 AGATAACTACGATACGGGAGGGCTTACCATCTGGCCCCAGTGCTGCAATGATACCGCGAGAC
 CCACGCTCACCGGCTCCAGATTTATCAGCAATAAACCAGCCAGCCGGAAGGGCCGAGCGCAG
 AAGTGGTCTTGCAACTTTATCCGCCTCCATCCAGTCTATTAATTGTTGCCGGGAAGCTAGAG
 TAAGTAGTTTCGCCAGTTAATAGTTTGCGCAACGTTGTTGCCATTGCTACAGGCATCGTGGTG
 TCACGCTCGTCGTTTGGTATGGCTTCATTAGCTCCGGTTCCCAACGATCAAGGCGAGTTAC
 ATGATCCCCCATGTTGTGCAAAAAAGCGGTTAGCTCCTTCGGTCTCCGATCGTTGTGAGAA
 GTAAGTTGGCCGAGTGTTATCACTCATGGTTATGGCAGCACTGCATAATTCTCTTACTGTC
 ATGCCATCCGTAAGATGCTTTTCTGTGACTGGTGAGTACTCAACCAAGTCATTCTGAGAATA
 GTGTATGCGGCGACCGAGTTGCTCTTGCCCGGCGTCAATACGGGATAATACCGCGCCACATA
 GCAGAACTTTAAAAGTGCTCATCATTGGAAAACGTTCTTCGGGGCGAAAACCTCTCAAGGATC
 TTACCGCTGTTGAGATCCAGTTCGATGTAACCCACTCGTGACCCAACTGATCTTCAGCATC
 TTTTACTTTTACCAGCGTTTCTGGGTGAGCAAAAACAGGAAGGCAAAATGCCGCAAAAAAGG
 GAATAAGGGCGACACGGAAATGTTGAATACTCATACTCTTCCTTTTTTCAATATTATTGAAGC
 ATTTATCAGGGTTATTGTCTCATGAGCGGATACATATTTGAATGTATTTAGAAAAATAAACA
 AATAGGGGTTCCGCGCACATTTCCCCGAAAAGTGCCACCTGACGCGCCCTGTAGCGGCGCAT
 TAAGCGCGGCGGGTGTGGTGGTTACGCGCAGCGTGACCGCTACACTTGCCAGCGCCCTAGCG
 CCCGCTCCTTTTCGCTTTCTTCCCTTCCTTTCTCGCCACGTTTCGCCGGCTTTCCCCGTCAAGC
 TCTAAATCGGGGGCTCCCTTTAGGGTTCCGATTTAGTGCTTTACGGCACCTCGACCCCCAAA
 AACTTGATTAGGGTGATGGTTACGTAAGTGGGCCATCGCCCTGATAGACGGTTTTTCGCCCT
 TTGACGTTGGAGTCCACGTTCTTTAATAGTGGACTCTTGTTCCAACTGGAACAACACTCAA
 CCCTATCTCGGTCTATTCTTTTGATTTATAAGGGATTTGCGGATTTTCGGCCTATTGGTTAA
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 CGGGACTTTCTACTTGGCAGTACATCTACGTATTAGTCATCGCTATTACCATGGTGTATGCG
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Fig. 14

p-12.0-lys-LSPIFNMM-CMV-pur-attB (SEQ ID NO: 7)

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Fig. 15

pOM IFN-Ins-CMV-pur-attB (SEQ ID NO: 8)

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 AGGCTGGAGGTGAGAGACAGAGCCTGTCCAGTTTTCCTGTCTCTATTTTCTGAAACGTTTG
 CAGGAGGAAAGGACAACGTACTTTTCAGGCATAGCTGGTGCCCTCACGTAAATAAGTTCCCC
 GAACTTCTGTGTCAATTTGTTCTTAAGATGCTTTGGCAGAACACTTTGAGTCAATTCGCTTAA
 CTGTGACTAGGTCTGTAAATAAGTGCTCCCTGCTGATAAGGTTCAAGTGACATTTTGTAGTGG
 TATTTGACAGCATTTACCTTGCTTTTCAAGTCTTCTACCAAGCTCTTCTATACTTAAGCAGTG
 AAACCGCCAAGAAACCTTCCCTTTTATCAAGCTAGTGCTAAATACCATTAACTTCATAGGTT
 AGATACGGTGCTGCCAGCTTCACCTGGCAGTGGTTGGTCAGTTCTGCTGGTGACAAAGCCTC
 CCTGGCCTGTGCTTTTACCTAGAGGTGAATATCCAAGAATGCAGAACTGCATGGAAAGCAGA
 GCTGCAGGCACGATGGTGCTGAGCCTTAGCTGCTTCTGCTGGGAGATGTGGATGCAGAGAC
 GAATGAAGGACCTGTCCCTTACTCCCTCAGCATTCTGTGCTATTTAGGGTTCTACCAGAGT
 CCTTAAGAGGTTTTTTTTTTTTTTTGGTCCAAAAGTCTGTTTGTTTGGTTTTGACCACTGAGA
 GCATGTGACACTTGTCTCAAGCTATTAACCAAGTGTCCAGCCAAAATCAATTGCCTGGGAGA
 CGCAGACCATTACCTGGAGGTCAGGACCTCAATAAAATATTACCAGCCTCATTGTGCCGCTGA
 CAGATTACAGCTGGCTGCTCCGTGTTCCAGTCCAACAGTTTCGGACGCCACGTTTGTATATATT
 TGCAGGCAGCCTCGGGGGGACCATCTCAGGAGCAGAGCACCGGCAGCCGCCTGCAGAGCCGG
 GCAGTACCTCACCATGGCTTTGACCTTTGCCTTACTGGTGGCTCTCCTGGTGCTGAGCTGCA
 AGAGCAGCTGCTCTGTGGGCTGCGATCTGCCTCAGACCCACAGCCTGGGCAGCAGGAGGACC
 CTGATGCTGCTGGCTCAGATGAGGAGAATCAGCCTGTTTAGCTGCCTGAAGGATAGGCACGA
 TTTTGGCTTTCCTCAAGAGGAGTTTGGCAACCAGTTTCAGAAGGCTGAGACCATCCCTGTGC
 TGCACGAGATGATCCAGCAGATCTTTAACCTGTTTAGCACCAGGATAGCAGCGCTGCTTGG
 GATGAGACCTGCTGGATAAGTTTTACACCGAGCTGTACCAGCAGCTGAACGATCTGGAGGC
 TTGCGTGATCCAGGGCGTGGGCGTGACCGAGACCCCTCTGATGAAGGAGGATAGCATCCTGG
 CTGTGAGGAAGTACTTTCAGAGGATCACCTGTACCTGAAGGAGAAGAAGTACAGCCCCTGC
 GCTTGGGAAGTCGTGAGGGCTGAGATCATGAGGAGCTTTAGCCTGAGCACCAACCTGCAAGA
 GAGCTTGAGGTCTAAGGAGTAAAAAGTCTAGAGTCGGGGCGGCCGCGCTTCGAGCAGACA
 TGATAAGATACATTGATGAGTTTGGACAAACCACAACCTAGAATGCAGTGAAAAAATGCTTT
 ATTTGTGAAATTTGTGATGCTATTGCTTTATTTGTAACCATTATAAGCTGCAATAAACAAGT
 TAACAACAACAATTGCATTCATTTTATGTTTCAGGTTTCAGGGGAGGTGTGGGAGGTTTTTT
 AAAGCAAGTAAACCTCTACAAATGTGGTAAATCGATACCGTCGACCTCGACTAGAGCGGC
 CACTAACATACGCTCTCCATCAAAACAAAACGAAACAAAACAACTAGCAAAATAGGCTGTC
 CCCAGTGCAAGTGCCAGGTGCCAGAACATTTCTCTATCGATAGGTACCGAGCTCTTACGCGTG
 CTAGCCCTCGAGCAGGATCTATACATTGAATCAATATTGGCAATTAGCCATATTAGTCATTG
 GTTATATAGCATAAATCAATATTGGCTATTGGCCATTGCATACGTTGTATCTATATCATAAT
 ATGTACATTTATATTGGCTCATGTCCAATATGACCGCCATGTTGACATTGATTATTGACTAG
 TTATTAATAGTAATCAATTACGGGGTCATTAGTTCATAGCCCATATATGGAGTTCGCGGTTA
 CATAACTTACGGTAAATGGCCCGCTGGCTGACCGCCCAACGACCCCGCCCATTGACGTCA
 ATAATGACGTATGTTCCCATAGTAACGCCAATAGGGACTTTCCATTGACGTCAATGGGTGGA
 GTATTTACGGTAAACTGCCCACTTGGCAGTACATCAAGTGTATCATATGCCAAGTCCGCCCC
 CTATTGACGTCAATGACGGTAAATGGCCCGCTGGCATTATGCCAGTACATGACCTTACGG
 GACTTTCCTACTTGGCAGTACATCTACGTATTAGTCATCGCTATTACCATGGTGATGCGGTT
 TTGGCAGTACATCAATGGGCGTGGATAGCGGTTTGAATCACGGGGATTTCGAAGTCTCCACC
 CCATTGACGTCAATGGGAGTTTGTTTTGGCACCAAAATCAACGGGACTTTCCAAAATGTGCT
 AACAACTCCGCCCCATTGACGCAAAATGGGCGGTAGGCGTGTACGGTGGGAGGTCTATATAAG
 CAGAGCTCGTTTAGTGAACCGTCAGATCGCCTGGAGACGCCATCCACGCTGTTTTGACCTCC
 ATAGAAGACACCGGGACCGATCCAGCCTCCCTCGAAGCTCGACTCTAGGGGCTCGAGATCT
 GCGATCTAAGTAAGCTTGCATGCCTGCAGGTGCGCCGCCACGACCGGTGCCGCCACCATCCC
 CTGACCCACGCCCCCTGACCCCTCACAAGGAGACGACCTTCCATGACCGAGTACAAGCCCACG

GTGCGCCTCGCCACCCGCGACGACGTCCCCCGGGCCGTACGCACCCTCGCCGCCGCGTTTCGC
CGACTACCCCGCCACGCGCCACACCGTCGACCCGGACCGCCACATCGAGCGGGTCACCGAGC
TGCAAGAACTCTTCCTCACGCGCGTCGGGCTCGACATCGGCAAGGTGTGGGTTCGCGGACGAC
GGCGCCGCGGTGGCGGTCTGGACCACGCCGGAGAGCGTCGAAGCGGGGGCGGTGTTTCGCCGA
GATCGGCCCCGCGCATGGCCGAGTTGAGCGGTTCCCGGCTGGCCGCGCAGCAACAGATGGAAG
GCCTCCTGGCGCCGCACCGGCCCAAGGAGCCCGCGTGGTTCTTGGCCACCGTCGGCGTCTCG
CCCGACCACCAGGGCAAGGGTCTGGGCAGCGCCGTCGTGCTCCCCGGAGTGGAGGCGGCCGA
GCGCGCCGGGGTGCCCGCCTTCCTGGAGACCTCCGCGCCCCGCAACCTCCCCTTCTACGAGC
GGCTCGGCTTCACCGTCACCGCCGACGTGAGGTGCCCGAAGGACCGCGCACCTGGTGATG
ACCCGCAAGCCCGGTGCCTGACGCCCGCCCCACGACCCGCAGCGCCCGACCGAAAGGAGCGC
ACGACCCCATGGCTCCGACCGAAGCCGACCCGGGCGGCCCGCCGACCCCGCACCCGCCCCC
GAGGCCCACCGACTCTAGAGTCGGGGCGGCCGGCCGCTTCGAGCAGACATGATAAGATACAT
TGATGAGTTTGGACAAACCACAACCTAGAATGCAGTGAAAAAATGCTTTATTTGTGAAATTT
GTGATGCTATTGCTTTATTTGTAAACCATTATAAGCTGCAATAAACAAGTTAACAACAACAAT
TGCATTCATTTTATGTTTCAGGTTCAAGGGGAGGTGTGGGAGGTTTTTTAAAGCAAGTAAAA
CCTCTACAAATGTGGTAAAATCGATAAGGATCAATTCGGCTTCAGGTACCGTCGACGATGTA
GGTCACGGTCTCGAAGCCGCGGTGCGGGTGCCAGGGCGTGCCCTTGGGCTCCCCGGGCGCGT
ACTCCACCTCACCCATCTGGTCCATCATGATGAACGGGTGAGGTGGCGGTAGTTGATCCCG
GCGAACGCGCGGCGCACCGGGAAGCCCTCGCCCTCGAAACCGCTGGGCGCGGTGGTCACGGT
GAGCACGGGACGTGCGACGGCGTTCGGCGGGTGCGGATACGCGGGGCAGCGTCAGCGGGTTCT
CGACGGTCACGGCGGGCATGTCGACAGCCGAATTGATCCGTCGACCGATGCCCTTGAGAGCC
TTCAACCCAGTCAGCTCCTTCCGGTGGGCGCGGGGCATGACTATCGTCGCCGCACTTATGAC
TGTCTTCTTTATCATGCAACTCGTAGGACAGGTGCCGGCAGC

Fig. 16

pRSV-C31int (SEQ ID NO: 9)

CTGCATTAATGAATCGGCCAACGCGCGGGAGAGGCGGTTTGCGTATTGGGCGCTCTTCC
 GCTTCCTCGCTCACTGACTCGCTGCGCTCGGTCTGCGCTGCGGCGAGCGGTATCAGCT
 CACTCAAAGGCGGTAATACGGTTATCCACAGAATCAGGGGATAACGCAGGAAAGAACATG
 TGAGCAAAAGGCCAGCAAAAGGCCAGGAACCGTAAAAAGGCCGCGTTGCTGGCGTTTTTC
 CATAGGCTCCGCCCCCTGACGAGCATCACAAAAATCGACGCTCAAGTCAGAGGTGGCGA
 AACCCGACAGGACTATAAAGATACCAGGCGTTTCCCCCTGGAAGCTCCCTCGTGCGCTCT
 CCTGTTCCGACCCTGCCGTTACCGGATACCTGTCCGCCTTTCTCCCTTCGGGAAGCGTG
 GCGCTTTCTCAATGCTCAGCTGTAGGTATCTCAGTTCGGTGTAGGTGCTTCGCTCCAAG
 CTGGGCTGTGTGCACGAACCCCCCGTTAGCCCCGACCGCTGCGCCTTATCCGGTAACAT
 CGTCTTGAGTCCAACCCGTAAGACACGACTTATCGCCACTGGCAGCAGCCACTGGTAAC
 AGGATTAGCAGAGCGAGGTATGTAGGCGGTGCTACAGAGTTCTTGAAGTGGTGGCCTAAC
 TACGGCTACACTAGAAGGACAGTATTTGGTATCTGCGCTCTGCTGAAGCCAGTTACCTTC
 GGAAAAAGAGTTGGTAGCTCTTGATCCGGCAAAACAAACCACCGCTGGTAGCGGTGGTTTT
 TTTGTTTGCAAGCAGCAGATTACGCGCAGAAAAAAGGATCTCAAGAAGATCCTTTGATC
 TTTTCTACGGGGTCTGACGCTCAGTGAACGAAAACTCAGTTAAGGGATTTTGGTCATG
 AGATTATCAAAAGGATCTTCACCTAGATCCTTTTAAATTAATAAGTAAAGTTTAAATCA
 ATCTAAAGTATATATGAGTAACTTGGTCTGACAGTTACCAATGCTTAATCAGTGAGGCA
 CCTATCTCAGCGATCTGTCTATTTCTGTTTCATCCATAGTTGCCTGACTCCCCGTCGTGTAG
 ATAATACTACGATACGGGAGGGCTTACCATCTGGCCCCAGTGCTGCAATGATACCGCGAGAC
 CCACGCTCACCGGCTCCAGATTTATCAGCAATAAACCAGCCAGCCGGAAGGGCCGAGCGC
 AGAAGTGGTCCTGCAACTTTATCCGCCTCCATCCAGTCTATTAATTGTTGCCGGGAAGCT
 AGAGTAAGTAGTTCCGCCAGTTAATAGTTTGCACGACGTTGTTGCCATTGCTACAGGCATC
 GTGGTGTACGCTCGTCGTTTGGTATGGCTTCATTCAGCTCCGGTTCCCAACGATCAAGG
 CGAGTTACATGATCCCCCATGTTGTGCAAAAAAGCGTTAGCTCCTTCGGTCTCCGATC
 GTTGTGAGAAGTAAGTTGGCCGCGAGTGTATCACTCATGGTTATGGCAGCACTGCATAAT
 TCTCTTACTGTCTATGCCATCCGTAAGATGCTTTTCTGTGACTGGTGAGTACTCAACCAAG
 TCATTCTGAGAATAGTGTATGCGGCGACCGAGTTGCTCTTGCCCGGCGTCAATACGGGAT
 AATACCGCGCCACATAGCAGAACTTTAAAGATGCTCATCATTTGGAACCGTTCTTCGGGG
 CGAAACTCTCAAGGATCTTACCGCTGTTGAGATCCAGTTCGATGTAACCCACTCGTGCA
 CCCAAGTATCTTACGATCTTTTACTTTTACCAGCGTTTCTGGGTGAGCAAAAAACAGGA
 AGGCAAAATGCCGCAAAAAAGGGAATAAGGGCGACACGGAATGTTGAATACTCATACTC
 TTCCTTTTTCAATATTATTGAAGCATTTATCAGGGTTATTGTCTCATGAGCGGATACATA
 TTTGAATGTATTTAGAAAAATAAACAAATAGGGGTTCCGCGCACATTTCCCCGAAAAGTG
 CCACCTGACGTCGACGGATCGGGAGATCTCCCGATCCCCTATGGTCTGACTCTCAGTACAA
 TCTGCTCTGATGCCGCATAGTTAAGCCAGTATCTGCTCCCTGCTTGTGTGTTGGAGGTGCG
 CTGAGTAGTGCGCGAGCAAAATTTAAGCTACAACAAGGCAAGGCTTGACCGACAATTGCA
 TGAAGAATCTGCTTAGGGTTAGGCGTTTTTGCCTGCTTCGCGATGTACGGGCCAGATATA
 CGCGTGCTAGGGGTCTAGGATCGATTCTAGGAATTCTCTAGCCGCGGTCTAGGGATCCCG
 GCGCGTATGGTGCCTCTCAGTACAATCTGCTCTGATGCCGCATAGTTAAGCCAGTATCT
 GCTCCCTGCTTGTGTGTTGGAGGTGCTGAGTAGTGCGCGAGCAAAATTTAAGCTACAAC
 AAGGCAAGGCTTGACCGACAATTGCATGAAGAATCTGCTTAGGGTTAGGCGTTTTGCGCT
 GCTTCGCGATGTACGGGCCAGATATACGCGTATCTGAGGGGACTAGGGTGTGTTTAGGCG
 AAAAGCGGGGCTTCGGTTGTACGCGGTTAGGAGTCCCCTCAGGATATAGTAGTTTCGTTT
 TTGCATAGGGAGGGGGAATGTAGTCTTATGCAATACACTTGTAGTCTTGCAACATGGTA
 ACGATGAGTTAGCAACATGCCTTACAAGGAGAGAAAAAGCACCGTGCATGCCGATTGGTG
 GAAGTAAGGTGGTACGATCGTGCTTATTAGGAAGGCAACAGACAGGTCTGACATGGATT
 GGACGAACCACTGAATTCCGCATTGCAGAGATAATTGTATTTAAGTGCCTAGCTCGATAC
 AATAAACGCCATTTGACCATTACCAATTGGTGTGCACCTCCAAGCTTGCATGCCTGCA
 GGTACCGGTCCGGAATTCCCGGGTGCACGAGCTCACTAGTCTAGGGTGCAGGACATGAC
 ACAAGGGGTGTGACCGGGGTGGACACGTACGCGGTGCTTACGACCGTCAGTCGCGCGA

GCGCGAGAATTGAGCGCAGCAAGCCCAGCGACACAGCGTAGCGCCAACGAAGACAAGGC
 GGCCGACCTTCAGCGCGAAGTCGAGCGCGACGGGGGCCGTTTCAGGTTTCGTTCGGGCATTT
 CAGCGAAGCGCCGGGCACGTCGGCGTTTCGGGACGGCGGAGCGCCCGAGTTTCGAACGCAT
 CCTGAACGAATGCCGCGCCGGGCGGCTCAACATGATCATTGTCTATGACGTGTTCGCGCTT
 CTCGCGCTGAAGGTCATGGACGCGATTCCGATTGTCTCGGAATTGCTCGCCCTGGGCGT
 GACGATTGTTTCCACTCAGGAAGGCGTCTTCCGGCAGGGAAACGTCATGGACCTGATTCA
 CCTGATTATGCGGCTCGACGCGTCGCACAAAGAATCTTCGCTGAAGTCGGCGAAGATTCT
 CGACACGAAGAACCTTCAGCGCGAATTGGGCGGGTACGTCGGCGGGAAGGCGCCTTACGG
 CTTTCGAGCTTGTTTCGGAGACGAAGGAGATCACGCGCAACGGCCGAATGGTCAATGTCGT
 CATCAACAAGCTTGGCGCACTCGACCACTCCCTTACCGGACCCTTCGAGTTTCGAGCCCGA
 CGTAATCCGGTGTTGGTGGCGTGAGATCAAGACGCACAAACACCTTCCCTTCAAGCCGGG
 CAGTCAAGCCGCCATTACCCGGGCGAGCATCACGGGGCTTTGTAAGCGCATGGACGCTGA
 CGCCGTGCCGACCCGGGGCGAGACGATTGGGAAGAAGACCGCTTCAAGCGCCTGGGACCC
 GGCAACCGTTATGCGAATCCTTCGGGACCCGCGTATTGCGGGCTTCGCCGCTGAGGTGAT
 CTACAAGAAGAAGCCGGACGGCACGCCGACCACGAAGATTGAGGGTTACCGCATTACGCG
 CGACCCGATCACGCTCCGGCCGGTCGAGCTTGATTGCGGACCGATCATCGAGCCCGCTGA
 GTGGTATGAGCTTCAGGCGTGTTGGACGGCAGGGGGCGCGGCAAGGGGCTTTCCCGGGG
 GCAAGCCATTCTGTCCGCCATGGACAAGCTGTACTGCGAGTGTGGCGCCGTTCATGACTTC
 GAAGCGCGGGGAAGAATCGATCAAGGACTCTTACCGCTGCCGTTCGCCGGAAGGTGGTCTGA
 CCCGTCCGCACCTGGGCAGCACGAAGGCACGTGCAACGTCAGCATGGCGGCACTCGACAA
 GTTCGTTGCGGAACGCATCTTCAACAAGATCAGGCACGCCGAAGGCGACGAAGAGACGTT
 GCGCTTCTGTGGGAAGCCGCCGACGCTTCGGCAAGCTCACTGAGGCGCCTGAGAAGAG
 CGCGAAGCGGGCGAACCTTGTTGCGGAGCGCGCCGACGCCCTGAACGCCCTTGAAGAGCT
 GTACGAAGACCGCGCGCAGGCGCGTACGACGGAACCGTTGGCAGGAAGCACTTCCGGAA
 GCAACAGGCAGCGCTGACGCTCCGGCAGCAAGGGGCGGAAGAGCGGCTTGCCGAACCTTGA
 AGCCGCCGAAGCCCCGAAGCTTCCCTTGACCAATGGTTCCCCGAAGACGCCGACGCTGA
 CCCGACCGGCCCTAAGTCGTGGTGGGGGCGCGCTCAGTAGACGACAAGCGCGTGTTCGT
 CGGGCTCTTCGTAGACAAGATCGTTGTACGAAGTCGACTACGGGCAGGGGGCAGGGAAC
 GCCCATCGAGAAGCGCGCTTCGATCACGTGGGCGAAGCCGCCGACCGACGACGACGAAGA
 CGACGCCCAGGACGGCACGGAAGACGTAGCGGCGTAGCGAGACACCCGGATCCCTCGAGG
 GGCCCTATTCTATAGTGTCACCTAAATGCTAGAGCTCGCTGATCAGCCTCGACTGTGCCT
 TCTAGTTGCCAGCCATCTGTTGTTTGGCCCTCCCCCGTGCCTTCCTTGACCCTGGAAGGT
 GCCACTCCCACTGTCTTTCTAATAAAATGAGGAAATTGCATCGCATTGTCTGAGTAGG
 TGTCAATTCTATTCTGGGGGGTGGGGTGGGGCAGGACAGCAAGGGGGAGGATTGGGAAGAC
 AATAGCAGGCATGCTGGGGATGCGGTGGGCTCTATGGCTTCTGAGGCGGAAAGAACCAGG
 TGCCAGTCATAGCCGAATAGCCTCTCCACCCAAGCGGCCGAGAACCTGCGTGCAATCC
 ACTGGGGGCGCG

Fig. 17

pCR-XL-TOPO-CMV-PUR-attB (SEQ ID NO: 10)

AGCGCCCAATACGCAAACCGCCTCTCCCCGCGCGTTGGCCGATTCATTAATGCAGCTGGC
ACGACAGGTTTCCCGACTGGAAGCGGGCAGTGAGCGCAACGCAATTAATGTGAGTTAGC
TCACTCATTAGGCACCCCAGGCTTTACACTTTATGCTTCCGGCTCGTATGTTGTGTGGAA
TTGTGAGCGGATAACAATTTACACACAGGAAACAGCTATGACCATGATTACGCCAAGCTAT
TTAGGTGACGCGTTAGAATACTCAAGCTATGCATCAAGCTTGGTACCGAGCTCGGATCCA
CTAGTAACGGCCGCCAGTGTGCTGGAATTCGCCCTTGGCCGCAATAAAATATCTTTATTT
TCATTACATCTGTGTGTTGGTTTTTGTGTGAATCGATAGTACTAACATACGCTCTCCAT
CAAAACAAAACGAAACAAAACAAACTAGCAAAATAGGCTGTCCCAGTGCAAGTGCAGGT
GCCAGAACATTTCTCTATCGATAGGTACCGAGCTCTTACGCGTGCTAGCCCTCGAGCAGG
ATCTATACATTGAATCAATATTGGCAATTAGCCATATTAGTCATTGGTTATATAGCATAA
ATCAATATTGGCTATTGGCCATTGCATACGTTGTATCTATATCATAATATGTACATTTAT
ATTGGCTCATGTCCAATATGACCGCCATGTTGACATTGATTATTGACTAGTTATTAATAG
TAATCAATTACGGGGTCATTAGTTCATAGCCCATATATGGAGTTCGCGCTTACATAACTT
ACGGTAAATGGCCCCGCTGGCTGACCGCCCAACGACCCCCGCCCATTGACGTCATAATG
ACGTATGTTCCCATAGTAACGCCAATAGGGACTTTCATTGACGTCAATGGGTGGAGTAT
TTACGCTAAACTGCCCACTTGGCAGTACATCAAGTGTATCATATGCCAAGTCCGCCCCCT
ATTGACGTCAATGACGGTAAATGGCCCGCCTGGCATTATGCCAGTACATGACCTTACGG
GACTTTCCTACTTGGCAGTACATCTACGTATTAGTCATCGCTATTACCATGGTGATGCGG
TTTTGGCAGTACATCAATGGGCGTGGATAGCGGTTTGACTCACGGGGATTTCCAAGTCTC
CACCCCATTTGACGTCAATGGGAGTTTGTTTTGGCACCAAATCAACGGGACTTTCCAAAA
TGTCGTAACAACCTCCGCCCCATTGACGCAATGGGCGGTAGGCGTGTACGGTGGGAGGTC
TATATAAGCAGAGCTCGTTTAGTGAACCGTCAGATCGCCTGGAGACGCCATCCACGCTGT
TTTGACCTCCATAGAAGACACCGGGACCGATCCAGCCTCCCCTCGAAGCTCGACTCTAGG
GGCTCGAGATCTGCGATCTAAGTAAGCTTGCATCGCCTGCAGGTGCGCCGACGACCCGCT
GCCGCCACCATCCCCTGACCCACGCCCTGACCCCTCACAAGGAGACGACCTTCCATGAC
CGAGTACAAGCCACGGTGCGCCCTCGCCACCCGCGACGACGTCCCCCGGGCCGTACGCAC
CCTCGCCGCGCGCTTCGCCGACTACCCCGCCACGCGCCACACCGTCGACCCGGACCGCCA
CATCGAGCGGGTCACCGAGCTGCAAGAACTCTTCTCACGCGCGTCGGGCTCGACATCGG
CAAGGTGTGGGTGCGGACGACGGCGCCGCGGTGGCGGTCTGGACCACGCCGGAGAGCGT
CGAAGCGGGGGCGGTGTTTCGCCGAGATCGGCCCCGCGCATGGCCGAGTTGAGCGGTTCCCG
GCTGGCCGCGCAGCAACAGATGGAAGGCCTCCTGGCGCCGCACCGGCCCAAGGAGCCCGC
GTGGTTCTCGGCCACCGTCGGCGTCTCGCCCGACCAACAGGGCAAGGGTCTGGGCAGCGC
CGTCGTGCTCCCCGGAGTGAGGGCGGCCGAGCGCGCCGGGTGCCCGCCTTCTGGAGAC
CTCCGCGCCCCGCAACCTCCCCTTCTACGAGCGGCTCGGCTTACCGTCACCGCCGACGT
CGAGGTGCCCCGAAGGACCGCGCACCTGGTGCATGACCCGCAAGCCCGGTGCCTGACGCCC
GCCCCACGACCCGCGAGCGCCCGACCGAAAGGAGCGCACGACCCCATGGCTCCGACCGAAG
CCGACCCGGGCGGCCCCCGCCGACCCCGCACCCGCCCCCGAGGCCACCGACTCTAGAGTC
GGGCGCGCCGCGCCTTCGAGCAGACATGATAAGATACATTGATGAGTTTGGACAAACCA
CAACTAGAATGCAGTGAAAAAATGCTTTATTTGTGAAATTTGTGATGCTATTGCTTTAT
TTGTAACCATTTATAAGCTGCAATAAACAAGTTAACAACAACAATTGCATTTCATTTTATGT
TTCAGGTTTCAGGGGGAGGTGTGGGAGGTTTTTTAAAGCAAGTAAACCTCTACAAATGTG
GTAAATCGATAAGGATCAATTCGGCTTCAGGTACCGTCGACGATGTAGGTACCGGTCTC
GAAGCCGCGGTGCGGGTGCCAGGGCGTGCCCTTGGGCTCCCCGGGCGCGTACTCCACCTC
ACCCATCTGGTCCATCATGATGAACGGGTGAGGTGGCGGTAGTTGATCCCGGCGAACGC
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GGGACGTGCGACGGCGTCGGCGGGTGCGGATACGCGGGGACGCGTCAGCGGGTTCTCGAC
GGTCACGGCGGGCATGTGACAGCCGAATTGATCCGTCGACCGATGCCCTTGAGAGCCTT
CAACCCAGTCAGCTCCTTCCGGTGGGCGCGGGGCATGACTATCGTCGCGGCACCTTATGAC
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TCACTGACTCGCTGCGCTCGGTGCTTGGCTGCGGCGAGCGGTATCAGCTCACTCAAAGG
CGGTAATACGGTTATCCACAGAATCAGGGGATAACGCAGGAAAGAACATGAAGGGCGAAT
TCTGCAGATATCCATCACACTGGCGGCCGCTCGAGCATGCATCTAGAGGGCCCAATTCGC
CCTATAGTGAGTCGTATTACAATTAAGTGGCCGTCGTTTTACAACGTGCTGACTGGGAAA
ACCTTGGCGTTACCCAACCTTAATCGCCTTGCAGCACATCCCCCTTTCGCCAGCTGGCGTA

ATAGCGAAGAGGGCCCGCACCGATCGCCCTTCCCAACAGTTGCGCAGCCTATACGTACGGC
 AGTTTAAAGGTTTACACCTATAAAAGAGAGAGCCGTTATCGTCTGTTTGTGGATGTACAGA
 GTGATATTATTGACACGCCGGGGCGACGGATGGTGATCCCCCTGGCCAGTGCCAGTCTGC
 TGTCAGATAAAGTCTCCCGTGAACTTTACCCGGTGGTGATATCGGGGATGAAAGCTGGC
 GCATGATGACCACCGATATGGCCAGTGTGCCGGTCTCCGTTATCGGGGAAGAAGTGGCTG
 ATCTCAGCCACCGCGAAAATGACATCAAAAACGCCATTAACCTGATGTTCTGGGGAATAT
 AAATGTCAGGCATGAGATTATCAAAAAGGATCTTCACCTAGATCCTTTTACGTAGAAAG
 CCAGTCCGCAGAAACGGTGCTGACCCCGGATGAATGTCAGCTACTGGGCTATCTGGACAA
 GGGAAAACGCAAGCGCAAAAGAGAAAGCAGGTAGCTTGCAGTGGGCTTACATGGCGATAGC
 TAGACTGGGCGGTTTTATGGACAGCAAGCGAACCAGGAATTGCCAGCTGGGGCGCCCTCTG
 GTAAGGTTGGGAAGCCCTGCAAAGTAAACTGGATGGCTTTCTCGCCGCCAAGGATCTGAT
 GGCGCAGGGGATCAAGCTCTGATCAAGAGACAGGATGAGGATCGTTTTCGCATGATTGAAC
 AAGATGGATTGCACGCAGGTTCTCCGGCCGCTTGGGTGGAGAGGCTATTTCGGCTATGACT
 GGGCACAACAGACAATCGGCTGCTCTGATGCCGCCGTGTTCCGGCTGTGACGCGAGGGGC
 GCCCGGTTCTTTTTGTCAAGACCGACCTGTCCGGTGCCCTGAATGAACTGCAAGACGAGG
 CAGCGCGGCTATCGTGGCTGGCCACGACGGGCGTTCTTGCGCAGCTGTGCTCGACGTTG
 TCACTGAAGCGGGAAGGGACTGGCTGCTATTGGGCGAAGTGCCGGGGCAGGATCTCCTGT
 CATCTCACCTTGCTCCTGCCGAGAAAGTATCCATCATGGCTGATGCAATGCGGCGGCTGC
 ATACGCTTGATCCGGCTACCTGCCATTTCGACCAAGCGAAACATCGCATCGAGCGAG
 CACGTACTCGGATGGGAAGCCGGTCTTGTCGATCAGGATGATCTGGACGAAGAGCATCAGG
 GGCTCGCGCCAGCCGAACGTTCGCCAGGCTCAAGGCGAGCATGCCCGACGGCGAGGATC
 TCGTCGTGACCCATGGCGATGCCGTGCTTGCCGAATATCATGGTGGAAAATGGCCGCTTTT
 CTGGATTGATCGACTGTGGCCGGCTGGGTGTGGCGGACCGCTATCAGGACATAGCGTTGG
 CTACCCGTGATATTGCTGAAGAGCTTGCGCGCGAATGGGCTGACCGCTTCTCGTGCTTT
 ACGGTATCGCCGCTCCCGATTGCGCAGCGCATCGCCTTCTATCGCCTTCTTGACGAGTTCT
 TCTGAATTATTAACGCTTACAATTTCTGATGCGGTATTTTCTCCTTACGCATCTGTGCG
 GTATTTTACACCGCATAAGGTGGCACTTTTCGGGGAAATGTGCGCGGAACCCCTATTG
 TTTATTTTTCTAAATACATTCAAATATGTATCCGCTCATGAGACAATAACCTGATAAAT
 GCTTCAATAATAGCACGTGAGGAGGGCCACCATGGCCAAGTTGACCAAGTGCCGTTCCGGT
 GCTCACCGCGCGCGACGTGCGCGGAGCGGTGAGTTCTGGACCGACCGGCTCGGGTTCTC
 CCGGGACTTCGTGGAGGACGACTTCGCCGGTGTGGTCCGGGACGACGTGACCCTGTTTCAT
 CAGCGCGGTTCAGGACCAGGTGGTGCCGGACAACACCCCTGGCCTGGGTGTGGGTGCGCGG
 CCTGGACGAGCTGTACGCCGAGTGGTTCGGAGGTCTGTGCCACGAACCTCCGGGACGCCTC
 CGGGCCGGCCATGACCGAGATCGGCGAGACCGGTGGGGGCGGGAGTTCCGCCCTGCGCGA
 CCCGGCCGGCAACTGCGTGCACTTCGTGGCCGAGGAGCAGGACTGACACGTGCTAAAAC
 TCATTTTTTAATTTAAAAGGATCTAGGTGAAGATCCTTTTGTGATAATCTCATGACCAAAAT
 CCCTTAACGTGAGTTTTTCGTTCCACTGAGCGTCAGACCCCGTAGAAAAGATCAAAGGATC
 TTCTTGAGATCCTTTTTTTCTGCGCGTAATCTGCTGCTTGCAAACAAAAAACCACCGCT
 ACCAGCGGTGGTTTGTGTTGCCGGATCAAGAGCTACCAACTCTTTTTCCGAAGGTAAGTGG
 CTTTCAGCAGAGCGCAGATACCAATACTGTCTTCTAGTGTAGCCGTAGTTAGGCCACCA
 CTTCAAGAACTCTGTAGCACCGCCTACATACTCGCTCTGCTAATCCTGTTACCAAGTGGC
 TGCTGCCAGTGGCGATAAGTCGTGCTTACCGGGTGGACTCAAGACGATAGTTACCGGA
 TAAGGCGCAGCGGTGGGCTGAACGGGGGGTTCGTGCACACAGCCAGCTTGAGGCGAAC
 GACCTACACCGAACTGAGATACCTACAGCGTGAGCTATGAGAAAGCGCCACGCTTCCCGA
 AGGGAGAAAGGCGGACAGGTATCCGGTAAGCGGCAGGGTTCGGAACAGGAGAGCGCACGAG
 GGAGCTTCCAGGGGGAAACGCCCTGGTATCTTTATAGTCTGTGCGGTTTCGCCACCTCTG
 ACTTGAGCGTCGATTTTTGTGATGCTCGTCAGGGGGGCGGAGCCTATGGAAAAACGCCAG
 CAACGCGGCCTTTTTACGGTTCCTGGGCTTTTGCTGGCCTTTTGCTCACATGTTCTTTCC
 TCGCTTATCCCTGATTCTGTGGATAACCGTATTACCGCCTTTGAGTGAGCTGATACCGC
 TCGCCGACCCGAACGACCGAGCGCAGCGAGTCAGTGAGCGAGGAAGCGGAAG

FIG. 18

attP (SEQ ID NO: 11)

GACTAGTACTGACGGACACACCGAAGCCCCGGCGGCAACCCTCAGCGGATGCCCCGGGGCTT
CACGTTTTCCCAGGTCAGAAGCGGTTTTCGGGAGTAGTGCCCCAACTGGGGTAACCTTTGAG
TTCTCTCAGTTGGGGGCGTAGGGTCGCCGACATGACACAAGGGGTGTGACCGGGGTGGACA
CGTACGCGGGTGCTTACGACCGTCAGTCGCGCGAGCGCGACTAGTACA

Fig. 19

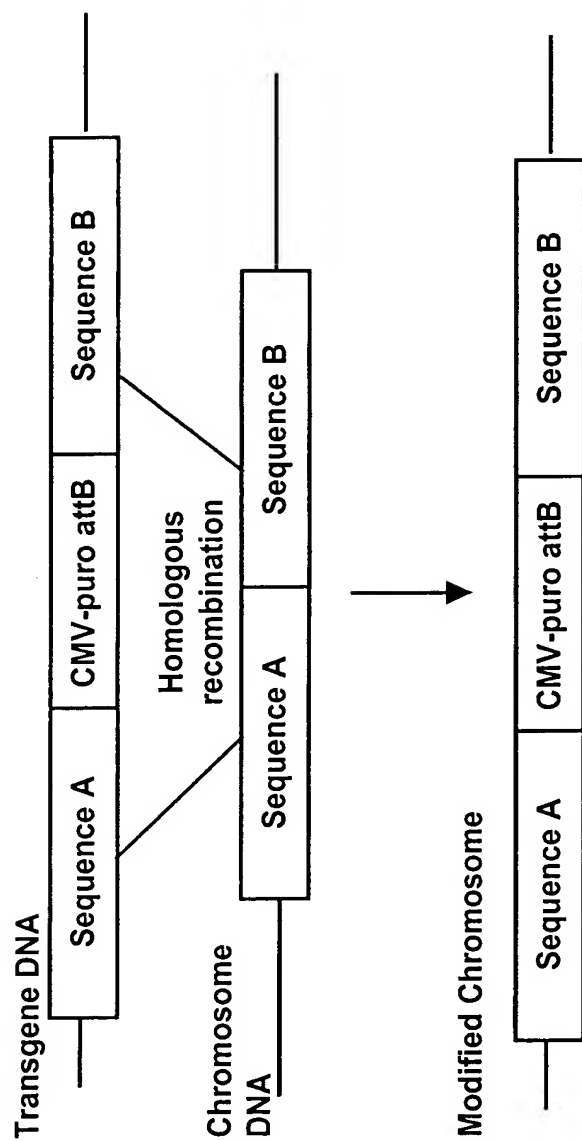


Fig. 20

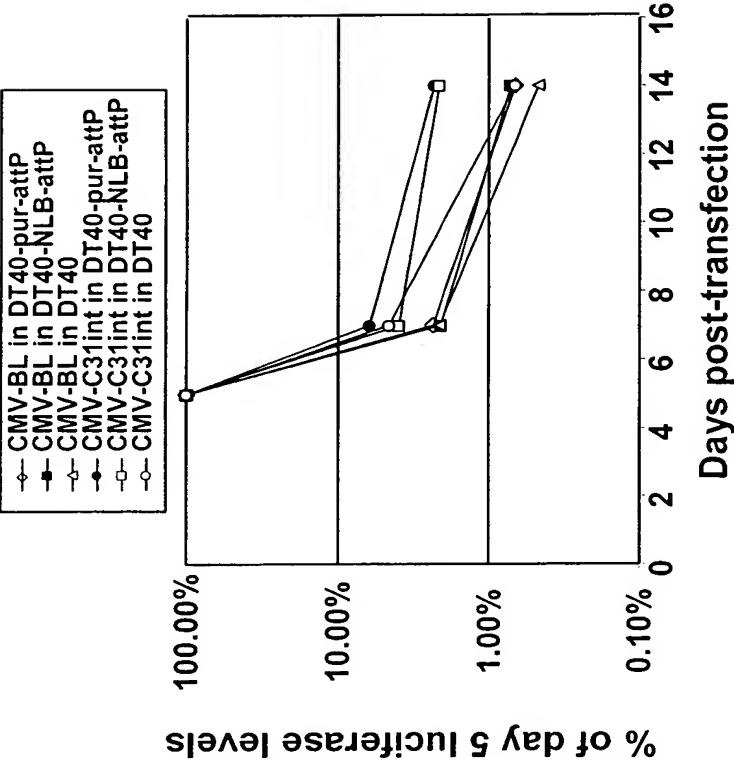


Fig. 21